

Hurricane Maria an Increasing Threat to Brush NC, VA Tidewater With Winds, Rain, Coastal Flooding; Tropical Storm, Storm Surge Watches Issued

weather.com Digital Meteorologists
Published: September 24, 2017

Hurricane Maria, a Category 2 hurricane, is increasingly likely to bring a brush of at least tropical storm-force winds and rain to parts of the East Coast later this week, in addition to its more certain impacts of coastal flooding, high surf, and rip currents.

Happening Now

The center of Hurricane Maria is now under 450 miles south-southeast of Hatteras, North Carolina, and is moving north at about 9 mph.

Data from an Air Force Reserve Hurricane Hunter aircraft suggest that winds have ticked down a bit to 105 mph. Some fluctuations in intensity are possible over the next day or so, as Maria remains over warm water in a relatively modest environment of wind shear.



Current Storm Status

Meanwhile, the National Weather Service says that flooding continues in Puerto Rico on the Rio Grande de Loiza, Rio Grande de Manati and La Plata basins.

Dam in Northwest Puerto Rico Being Watched for Failure

At least one rain gauge near Caguas, Puerto Rico, reported more than 35 inches of rain from Maria.

Current Watches and Warnings

A storm surge watch has been issued for portions of the North Carolina coast between Cape Lookout and Duck. 2 to 4 feet of storm surge is expected in this area, including on the sound side of the Outer Banks.

A tropical storm watch has been issued for portions of North Carolina from Surf City northward to the Virginia Border, including Albemarle and Pamlico sounds. Tropical storm conditions are possible beginning Tuesday.

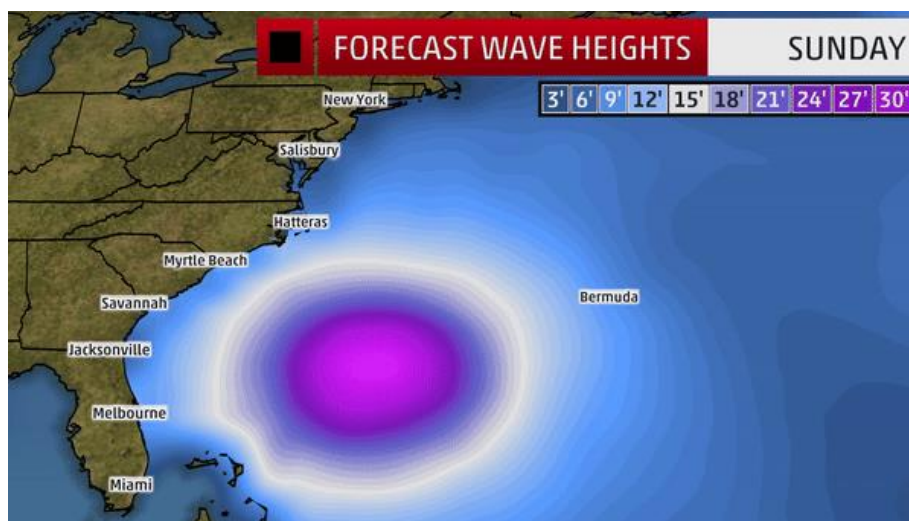
Maria's Potential U.S. Impact: How Close Will It Get?

There is one guaranteed impact that the U.S. East Coast will see no matter what path Maria takes this week: high surf and dangerous rip currents.

High surf advisories are posted from the east coast of Florida to parts of the Carolinas and as far north as southeast New England as swells from Maria continue to push toward the coast and spread north.

Along with the threats of dangerous breaking waves and rip currents, some beach erosion and overwash is also possible, particularly at high tide. Those heading to the beaches should avoid entering the waters, and boaters should be aware of rough surf conditions.

According to the National Weather Service, over 25 rip current rescues were performed at Wrightsville Beach, North Carolina, Saturday.



Forecast wave heights through this weekend. (NOAA Wave Watch Model)

Maria will move north through Wednesday or Thursday, and now appears likely to move close enough to the Outer Banks of North Carolina to bring some impacts, there, as well as parts of the Virginia Tidewater and perhaps the southern Delmarva Peninsula.

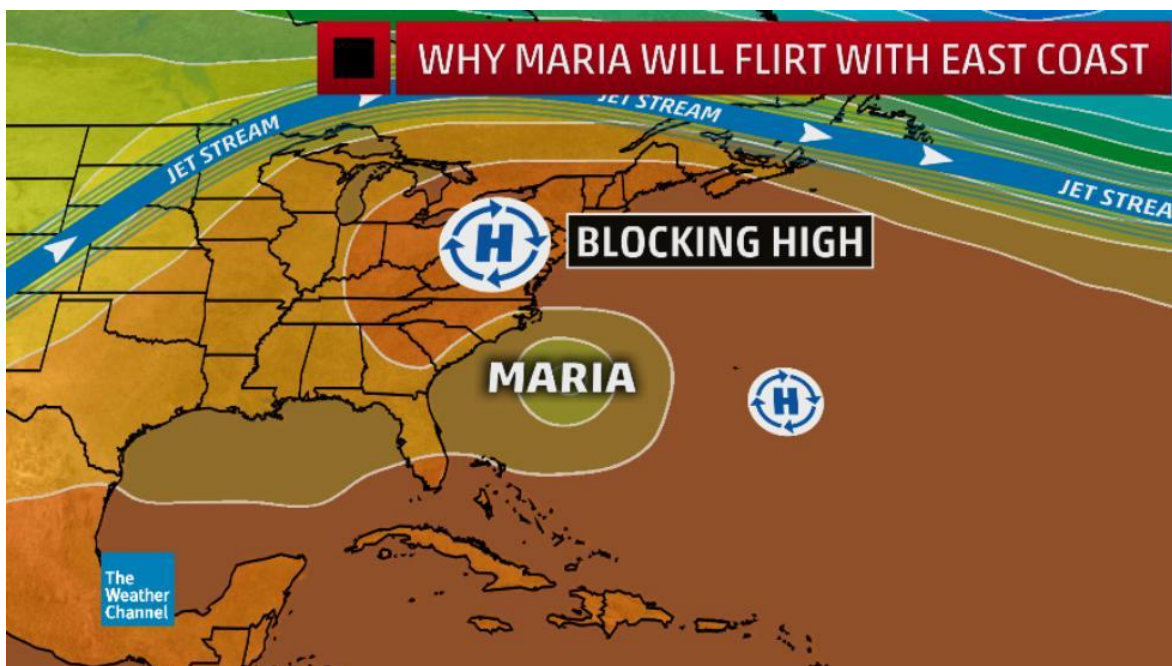
For now, it appears increasingly likely at least tropical storm-force winds, or sustained winds greater than 40 mph, may affect the Outer Banks and southeast Virginia around mid-week, along with at least outer bands of rain.

Regardless of any intensity changes in the days ahead, given its large wind field, Maria will likely lead to increasing coastal flooding in the flood-prone Outer Banks and Virginia Tidewater.

Projected Path

Maria's northward movement the next few days is thanks to steering winds from the Bermuda high to its east, and upper-level low pressure over the northern Gulf of Mexico.

The reason Maria will slow down and pass close to the East Coast is an upper-level high-pressure system responsible for a searing early-fall heat wave over the Northeast and Great Lakes, acting like a temporary trap for Maria.



The blocking high-pressure system aloft that will allow Maria to be trapped temporarily near the East Coast this week.

Late this week, that blocking high aloft will weaken considerably, giving way to a return of the jet stream that will finally carry Maria away into the northern Atlantic Ocean.

For now, residents from eastern North Carolina to the Mid-Atlantic coast should check back frequently for updates to the Maria forecast and be prepared for either tropical storm or hurricane conditions later this week.

Storm Recap

Maria rapidly intensified from a Category 1 to Category 5 hurricane Monday in almost as little time as the infamous 2005 Hurricane Wilma did, thanks to a combination of low wind shear, a moist atmosphere, and warm ocean temperatures.

Maria then made landfall on the island of Dominica at 9:15 p.m. EDT Monday evening as a Category 5 hurricane with maximum sustained winds of 160 mph, the first Category 5 landfall on the island in NOAA's historical record.

A report from a U.S. Air Force Reserve Hurricane Hunter mission Tuesday evening confirmed Maria had strengthened even more as maximum sustained winds increased to 175 mph and central pressure dropped to 908 mb, a lower pressure than Irma had at any time.

That was the lowest pressure for any Atlantic hurricane since Hurricane Dean's 905-mb minimum central pressure in August 2007. It is also the 10th-most-intense hurricane in Atlantic Basin history, based on minimum central pressure.

(MORE: Hurricane Maria Was One of the 10 Most Intense Atlantic Basin Hurricanes on Record)

The eye of Maria came ashore near the town of Yabucoa, Puerto Rico, around 6:15 a.m. EDT Wednesday morning as a Category 4 hurricane with maximum sustained winds of 155 mph.

Maria was the strongest Puerto Rico landfall since the Category 5 September 1928 San Felipe/Lake Okeechobee hurricane.

Prior to both Irma and Maria, only four other Category 4 hurricanes had tracked within 75 miles of central Puerto Rico in historical records dating to the late 19th century. Hurricane Hugo in 1989 was the last to do so prior to 2017, though it had weakened to a Category 3 hurricane as it clipped the northeast tip of Puerto Rico, according to the NOAA best tracks database.

Here is a sampling of peak wind gusts that were observed in Puerto Rico and the Virgin Islands late Tuesday into Wednesday. Thanks to NOAA meteorologist Alex Lamers for assistance compiling these peak gusts.

- Western St. Croix, Virgin Islands: 137 mph (sustained winds of 106 mph)
- Isla Culebrita, Puerto Rico: 137 mph
- Gurabo, Puerto Rico: 120 mph (WeatherFlow station)

- Camp Santiago, Puerto Rico: 118 mph
- El Negro, Puerto Rico: 116 mph
- Yabucoa, Puerto Rico: 116 mph (WeatherFlow station)
- Arecibo, Puerto Rico: 111 mph
- San Juan, Puerto Rico: 110 mph (WeatherFlow station)
- Fajardo, Puerto Rico: 100 mph
- San Juan (Luis Muñoz Marín Int'l Airport), Puerto Rico: 95 mph
- St. Thomas, Virgin Islands: 86 mph

A storm surge of over 5 feet was recorded Wednesday by a NOAA tide gauge at Yabucoa Harbor, Puerto Rico.

Here are some other peak storm-surge values from Wednesday, above the average high-tide level:

- San Juan Bay, Puerto Rico: About 2.4 feet
- Fajardo, Puerto Rico: About 2.3 feet
- Arecibo, Puerto Rico: About 2.2 feet
- Christiansted Harbor, St. Croix, Virgin Islands: About 2 feet
- Culebra, Puerto Rico: About 1.7 feet
- St. John (Lameshur Bay), Virgin Islands: About 1.5 feet

According to the National Weather Service office in San Juan, Puerto Rico, rain rates approached 5 to 7 inches per hour Wednesday morning.

This torrential rain prompted flash flood warnings in much of Puerto Rico and parts of the Virgin Islands.

Flash flood emergencies were issued for the Rio de la Plata Basin. River levels had risen 20 feet since midnight Tuesday night near the town of Comerio.

Over a dozen river gauges reported levels above flood stage. The Rio Grande de Manatí near Ciales shattered its previous record by over 17 feet, and the Rio Gurabo at Gurabo neared its record crest set in September 1960. Other record levels have been seen, as well, including the Rio Grande de Manatí near Manatí (previous record was set in September 1996) and the Rio Grande de Arecibo above Arecibo (previous record was set in May 1985).